Year 10 Higher Scheme of Work

11H: Multiplicative Reasoning

Learning objectives	Sparx Clip Numbers
Converting units of measure - Linear	M772, U388, M530, U388
Converting units of measure – Area and Volume	M728, U248, M761, U388
Metric and Imperial conversions, currency and time	M772, U388
Conversion Graphs	M843, U652, M771, U638
Repeated proportional change – Interest & Depreciation	M901, U332
Compound Measures – Speed, Distance and Time	U151
Compound Measures – Mass, Density and Volume	U910
Compound Measures – Pressure, Force and Area	U527
Best Buys	M681, U721, U357, U256

12H: Similarity and Congruence

Learning objectives	Sparx Clip Numbers
Similar Polygons	M377, U551, M324, U578
Similar Triangles	M324, U578
Similar Shapes – Problem Solving	U578
Areas in Similar Shapes	U630, U110
Volumes of Similar Shapes	U110
Congruence	M124, U790
Congruent Triangles	U866
Constructing Triangles	M565, U187
Congruent Triangles – problem solving	U866

13H: More Trigonometry

Learning objectives	Sparx Topic Code
Learn how to draw and recognise the Sine, Cosine and Tangent graphs	U450
Learn the proof of the area of a triangle using $\frac{1}{2}\,ab\sin C$	U592
Learn how to find the area of a tringle when given two sides and the angle in between	U592
Learn how to find the side length of a triangle when given the area and an angle in between	U592
Learn how to find the area of other shapes using the area of a triangle	U592
Learn how to prove the Sine Rule	U952
Learn how to use the Sine Rule to find a side length	U952
Learn how to use the Sine Rule to find the size of an angle	U952
Learn how to use the Sine Rule in the ambiguous case	U952
Learn how to prove the Cosine Rule	U951
Learn how to use the Cosine Rule to find a missing side	U951
Learn how to use the Cosine Rule to find a missing angle	U951
Learn how to use the Sine and Cosine rules to solve bearings problems	U164
Learn how to solve multi-step problems with the Sine and Cosine rule	-
Learn how to use trigonometry to calculate the missing angles or sides in a cone	U170
Learn how to use trigonometry to calculate the missing angles or sides in a square-based pyramid	U170
Learn how to use trigonometry to calculate the missing angles or sides in a cuboid	U170
Learn how to use trigonometry to calculate the missing angles or sides in a triangular-based pyramid	U170
Learn how to use trigonometry to calculate the missing angles or sides in a triangular prism	U170
Learn how to use calculate the volume of a shape when trigonometry is needed to calculate a missing side	U170
Learn how to calculate a missing angle given the volume of a shape	U170
Learn how to calculate missing sides and angles in 3D shapes using Sine and Cosine rules	U170

14H: Further Statistics

Learning objectives	Sparx Topic Code
Census, sampling and bias	U162
Surveys and Questionnaires	M493, U911
Data Collection Sheets (Tally Charts)	-
Upper and Lower Quartiles	U879
Interquartile Range	U879
Box Plots	U879, U837, U507
Cumulative Frequency Diagrams	U182, U642
Histograms	U983, U814

15H: Equations and Graphs

Learning objectives	Sparx Topic Code
Solve a pair of simultaneous equations involving linear and quadratic equations (including graphically)	U547, U875
Represent inequalities as regions on graphs	U747
Solve quadratic inequalities	U133
Find solutions to complex equations using an iterative formula	U434, U168
Identify the line of symmetry of a quadratic graph	U667
Identify the turning point of a quadratic graph	U667
Sketch a quadratic graph, by identifying roots, turning points and any intersections with the axes	U667
Solve simultaneous quadratic equations graphically	U875
Identify and draw graphs of cubic equations	U980
Identify and draw graphs of reciprocal functions	U593
Identify and draw graphs of exponential functions	U229
Equations of circles and tangents of circles	U567